Extreme weather planning for financial services

28 July 2011 - Financial services can make more informed decisions thanks to increased understanding of the El Niño and La Niña climate cycles, according to a Met Office report.

Commissioned by the Lighthill Risk Network , the Global Impact of El Niño and La Niña Implications for Financial Services report states that there is a two-fold importance to the two cycles - which affect sea surface temperatures in the Pacific Ocean.

Matt Huddleston, Met Office Principal Consultant
and author of the report, said: "These cycles shift the risks of damaging hazards in recognisable ways and they can be predicted about six months in advance. Clearly the periodic reduction of risk offers economic and societal benefits that, if known in advance, could be exploited."

Because of the implications for property, agriculture and transport infrastructure, Lighthill Risk Network asked the Met Office to define and describe the cycle of El Niño and La Niña episodes and the impacts that are most relevant to the finance industry globally, in particular severe rainfall and tropical storms.

During the 2010/11 La Niña episode, the state of Queensland in Australia suffered losses estimated at $5.5bn, including devastation of the state's important sugar cane crop, disruption of coal mining and wheat transport, and extensive property damage.

El Niño and La Niña (meaning boy and girl child respectively) events arise in the tropical Pacific, where strong and extensive interactions between the ocean and atmosphere can lead to warmer or cooler than usual ocean conditions that last several months. They tend to have opposite effects. There is, for example, a pronounced tendency for fewer Atlantic hurricanes during El Niño and more during La Niña events.

Both El Niño and La Niña are associated with shifts in the climate system that affect regional temperature, rainfall and wind patterns in the tropics and mid-latitude regions.

There can be positive effects. The counter side to more extreme hazards in some areas is that others are likely to have less disturbed weather patterns. For example, when parts of the world suffer heavy crop losses, others may benefit from more favourable production conditions and higher prices.

The negative effects include significant damage to property, agriculture, especially crops, forestry and transport infrastructure. For property insurance, the most significant changes are associated with damage caused by flooding or storms. Drought as a result of high temperatures and low rainfall produces low crop yields and wildfires.

The best documented impacts are those associated with the very strong El Niño event in 1997/98, which was followed by an extended La Niña episode covering the next two years. US agriculture sector losses from the El Niño were estimated at $1.5-$1.7bn and those from the subsequent La Niña between $2.2 and $6.5bn.

In Kenya, the El Niño damages were estimated at 11 percent of GDP. Conversely, La Niña caused drought damage to the extent of 16 percent of GDP in each of 1998/99 and 1999/00 financial years. While these impacts were unusually large, they give an idea of the range of consequences - and they may occur again, states the Met Office.

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